Appl. No.: 10/605,820
Amdt. Dated: 9/30/2004
Reply to Office action of: 07/06/2004

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) An adjustable head restraint assembly comprising:
a mounting post having a horizontal portion;
a head restraint portion disposed about said mounting post horizontal portion and further characterized as mounted to at least one spring mounted fixedly about said mounting post horizontal portion;
pivoting bracket connecting said head restraint body to said mounting post horizontal portion for enabling said head restraint body to pivot relative to said mounting post;
ratcheting means acting between said mounting post and said head restraint body for permitting said head restraint body to pivot in ~~one~~ a first direction and selectively locking said head restraint body against pivotal movement in ~~the opposite~~ a direction opposite said first direction, said ratcheting means including a ~~rack~~ ratcheting gear having a plurality of ~~directional~~ teeth and a pawl having a pair of ~~directional~~ teeth containing ends, for selectively alternatively engaging said ~~rack~~ ratcheting gear ~~directional~~ teeth, ~~one~~ a first pawl end when engaged allowing movement of the ~~rack~~ ratcheting gear only in ~~one~~ a first direction and ~~the other~~ a second pawl end when engaged allowing movement of the ~~rack~~ ratcheting gear in ~~the opposite~~ a direction opposite said first direction only, to control the movement of said head restraint body; and
characterized by said ratcheting means comprises;
a ratcheting position locking mechanism comprising;
a pivoting bracket for mounting an inertia spring connecting rod,
an inertia spring pawl connecting rod for mounting one end of a plurality of inertia springs and the ~~non-rack~~ non-ratcheting gear engaging end of a pawl,

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a plurality of inertia springs,

a pawl mounting rod for mounting said pawl to said pivoting bracket,

a ~~toothed rack~~ ratcheting gear mounted on said mounting post horizontal portion upon which said pawl engages as well as linear damping toothed rotary gear in operable engagement with ~~toothed rack~~ said ratcheting gear to slow the forward motion of said adjustable head restraint assembly during forward positioning; and

a ratchet plunger release mechanism comprising;

a plunger end, mounted within a mounting sleeve, both being mounted on a plunger rod, said plunger rod moveably mounted through said pivoting bracket and having a plunger end return biasing spring mounted on said plunger rod between ~~the distal end of~~ said mounting sleeve and ~~the proximal face of~~ said pivoting bracket to return said plunger end to a forward most position when rearward pressure is removed from said plunger end.

2. (original) The adjustable head restraint assembly as claimed in Claim 1, wherein said ratcheting position locking mechanism comprises a metal, particularly steel.

3. (original) The adjustable head restraint assembly as claimed in Claim 1, wherein said ratchet plunger release mechanism plunger rod comprises a metal, particularly steel.

4. (original) The adjustable head restraint assembly as claimed in Claim 1, wherein said ratchet plunger release mechanism plunger end and said mounting sleeve comprises metal, particularly steel.

5. (original) The adjustable head restraint assembly as claimed in Claim 1, wherein said linear damping toothed rotary gear comprises a molded plastic.

6. (original) The adjustable head restraint assembly as claimed in Claim 1, wherein said assembly will not pivot under collision conditions.

7. (original) The adjustable head restraint assembly as claimed in Claim 1, wherein said assembly may be positioned anywhere along its range of movement.

8. (original) The adjustable head restraint assembly as claimed in Claim 1, wherein said assembly is normally engaged to prevent rearward movement.

9. (original) The adjustable head restraint assembly as claimed in Claim 1, wherein said toothed ratcheting rack is mounted on said horizontal portion of said mounting post.

10. (original) The adjustable head restraint assembly as claimed in Claim 1, wherein a pressure plate is biased against the interior surface of the front face of the head restraint and operable connected to the end of said plunger.

11. (original) The adjustable head restraint assembly as claimed in Claim 1, wherein said assembly is operatively connected to a seatback frame through a guide sleeve.

12. (currently amended) The adjustable head restraint assembly as claimed in Claim 1, wherein said assembly is positioned by ~~an occupant~~ applying an activating force against said plunger end.

13. (original) The adjustable head restraint assembly as claimed in Claim 1, wherein a first pressing on said plunger unlocks said head restraint assembly and allows forward movement thereof and a second pressing on said plunger stops said forward movement and locks the head restraint assembly from further forward movement.

14. (original) The adjustable head restraint assembly as claimed in Claim 13, wherein said adjustable head restraint is prevented from forward movement during a collision by said inertia springs.

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15. (currently amended) An adjustable head restraint assembly comprising:
a mounting post having a horizontal portion;
a head restraint portion disposed about said mounting post horizontal portion and further characterized as mounted to at least one spring mounted fixedly about said mounting post horizontal portion;
pivoting bracket connecting said head restraint body to said mounting post horizontal portion for enabling said head restraint body to pivot relative to said mounting post;
ratcheting means acting between said mounting post and said head restraint body for permitting said head restraint body to pivot in ~~one~~ a first direction and selectively locking said head restraint body against pivotal movement in ~~the opposite~~ a direction opposite said first direction, said ratcheting means including a ~~rack~~ ratcheting gear having a plurality of ~~directional~~ teeth and a pawl having a pair of ~~directional~~ teeth containing ends, for selectively alternatively engaging said ~~rack~~ ratcheting gear ~~directional~~ teeth, ~~one~~ a first pawl end when engaged allowing movement of the ~~rack~~ ratcheting gear only in ~~one~~ a first direction and ~~the other~~ a second pawl end when engaged allowing movement of the ~~rack~~ ratcheting gear in ~~the opposite~~ a direction opposite said first dierction only, to control the movement of said head restraint body; and
characterized by said ratcheting means comprises;
a ratcheting position locking mechanism comprising;
a pivoting bracket for mounting an inertia spring connecting rod,
an inertia spring pawl connecting rod for mounting one end of a plurality of inertia springs, and inertia lock assembly and the ~~non-rack~~ non-ratcheting gear engaging end of ~~a~~ said pawl,
a plurality of inertia springs,
a pawl mounting rod for mounting said pawl to said pivoting bracket,
a ~~toothed rack~~ ratcheting gear mounted on said mounting post horizontal portion upon which said pawl engages as well as

linear damping toothed rotary gear in operable engagement with ~~toothed rack~~ said ratcheting gear to slow the forward motion of said adjustable head restraint assembly during forward positioning; and

a ratchet plunger release mechanism comprising a plunger end, having a pressure activation unit mounted thereon, said plunger mounted within a mounting sleeve, both being mounted on a plunger rod, said plunger rod moveably mounted through said pivoting bracket and having a plunger end return biasing spring mounted on said plunger rod between ~~the distal end of~~ said mounting sleeve and ~~the proximal face of~~ said pivoting bracket o return said plunger end to a forward most position when rearward pressure is removed from said plunger end.

16. (original) The adjustable head restraint assembly as claimed in Claim 15, wherein a first pressing on said plunger unlocks said head restraint assembly and allows forward movement thereof and a second pressing on said plunger stops said forward movement and locks the head restraint assembly from further forward movement.

17. (original) The adjustable head restraint assembly as claimed in Claim 16, wherein said adjustable head restraint is prevented from forward movement during a collision by said inertia springs.

18. (currently amended) The adjustable head restraint assembly as claimed in Claim 15, wherein said assembly is positioned by ~~an occupant~~ applying an activating force against said plunger end.

19. (currently amended) The adjustable head restraint assembly as claimed in Claim 1, wherein ~~said inertia springs is replaced by~~ a fluid damper is operably connected to said linear damping toothed rotary gear.

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20. (currently amended) The adjustable head restraint assembly as claimed in Claim 15, wherein ~~said inertia springs is replaced by~~ a fluid damper is operably connected to said linear damping toothed rotary gear.